



FortiSwitch 224D-POE

QuickStart Guide



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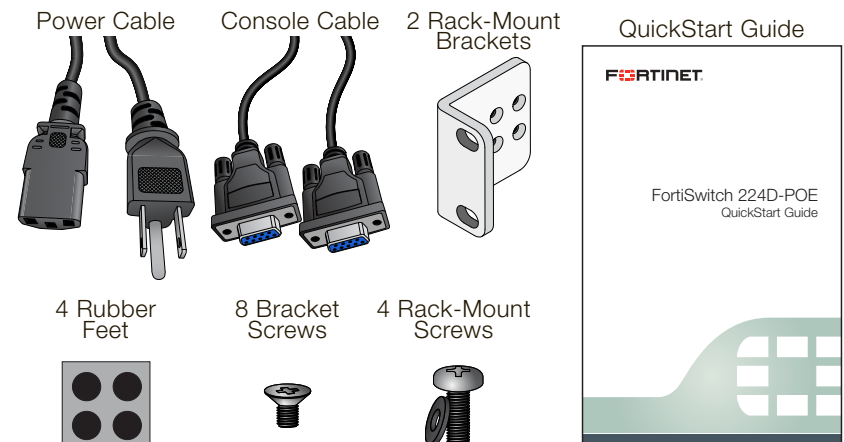
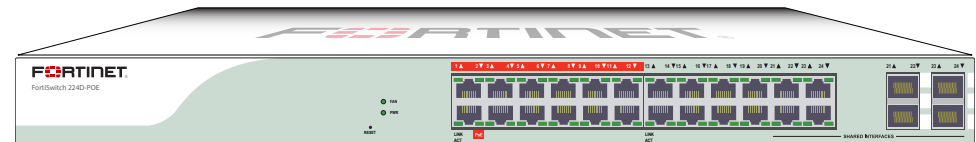
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Package Contents

Fortinet's consolidated security solutions provide an integrated set of core security and network services in a single, easy-to-manage, high-performance appliance that is capable of supporting a wide range of deployment scenarios.

Your box contains the following:

- FortiSwitch 224D-POE
- QuickStart Guide
- Power Cable
- Console Cable
- 4 Rubber Feet
- 2 Rack-Mount Brackets
- 8 Bracket Screws
- 4 Rack-Mount Screws



Note: Accessories may not be exactly as shown.

Installation

The FortiSwitch unit can be placed on any flat surface, or mounted in any standard 19 inch rack unit with the provided rack-mount brackets and screws.

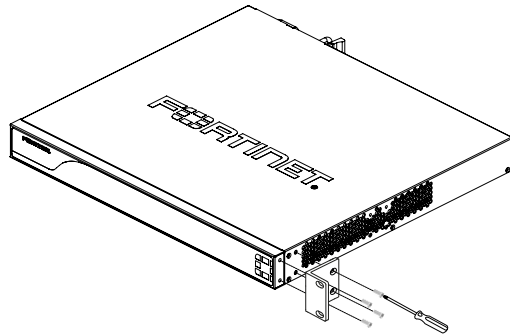
Caution: Electrostatic discharge (ESD) can damage your Fortinet equipment.

Caution: Do not place heavy objects on the unit.

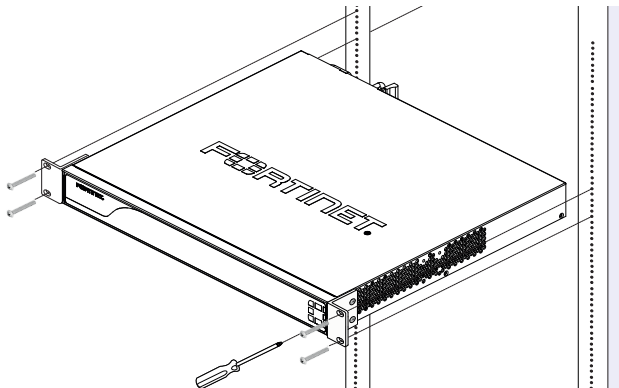
To install the FortiSwitch unit into a rack:

Caution: To avoid personal injury or damage to the unit, it is recommended that two or more people install the unit into the rack.

1. Ensure that the FortiSwitch unit is placed on a stable surface prior to rack-mount installation.
2. Attach the provided rack-mount brackets to the sides of the unit using the provided screws.



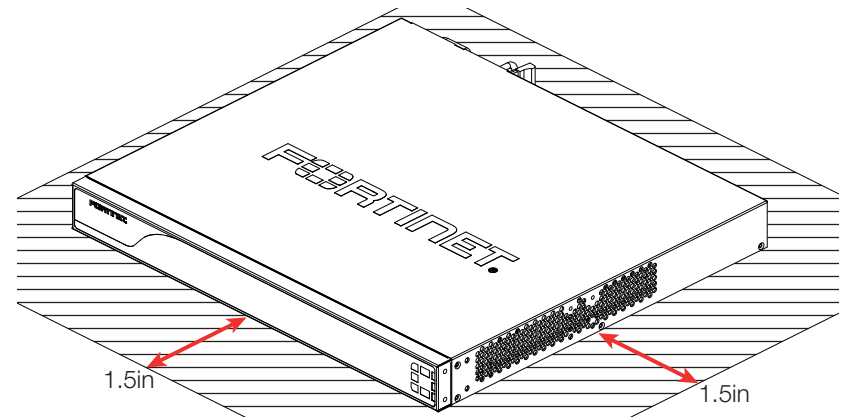
3. Position the FortiSwitch unit in the rack. Ensure there is enough room around the unit to allow for sufficient air flow.
4. Line up the rack-mount bracket holes to the holes on the rack and ensure that the FortiSwitch unit is level.



5. Finger tighten four rack-mount screws to attach the unit to the rack.
6. Verify that the spacing around the FortiSwitch unit conforms to requirements and that the unit is level, then tighten the rack-mount screws with an appropriate screwdriver.
7. Using the provided power cable, plug the cable into the rear of the unit, and then into a grounded electrical outlet or a separate power source such as an uninterruptible power supply (UPS) or a power distribution unit (PDU).

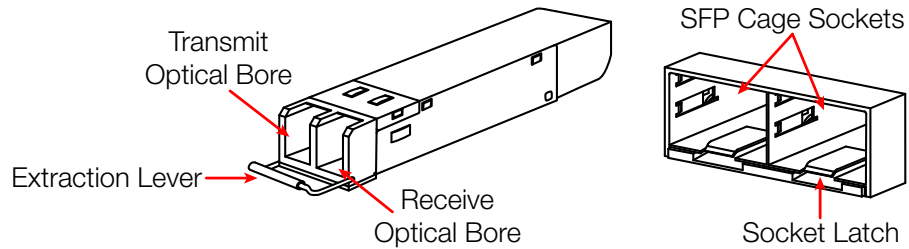
To install the unit on a flat surface:

1. Ensure that the surface onto which the FortiSwitch unit to be installed is clean, level, and stable and that there is at least 1.5in (3.8cm) of clearance on all sides to allow for adequate airflow.
2. Attach the provided rubber feet to the bottom of the FortiSwitch unit.
3. Place the unit in the designated location.
4. Verify that the spacing around the FortiSwitch unit conforms to requirements and that the unit is level.



5. Using the provided power cable, plug the cable into the rear of the unit, and then into a grounded electrical outlet or a separate power source such as an uninterruptible power supply (UPS) or a power distribution unit (PDU).

SFP Transceivers



Caution: SFP transceivers are static sensitive devices. Use an ESD wrist strap or similar grounding device when handling transceivers.

Caution: Do not install or remove SFP transceivers while fiber-optic cables are still attached. This can cause damage to the cables, cable connectors, and the optical interfaces. It may also prevent the transceiver from latching correctly into the socket connector.

Note: Installing and removing SFP transceivers can shorten their useful life. Do not install or remove transceivers more than is necessary.

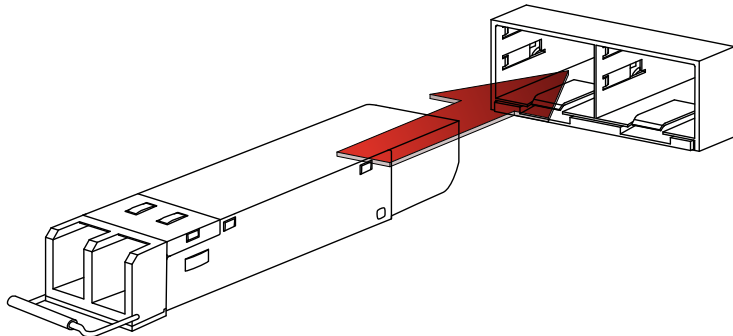
To install the SFP transceivers:

1. Ensure that you are properly grounded.
2. Remove the caps from SFP cage sockets on the front panel of the unit.
3. Position the SFP transceiver in front of the cage socket opening and ensure that the transceiver is correctly oriented.

When the transceiver is correctly oriented, the extraction lever will be level with the socket latch.

Note: SFP cage socket orientation may vary. Ensure that the SFP transceiver module is correctly oriented each time that you are inserting a transceiver.

4. Hold the sides of the SFP transceiver and slide it into the cage socket until it clicks into place.

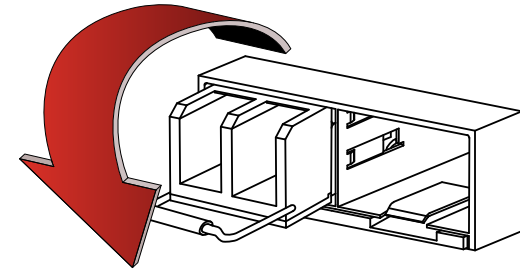


Caution: Do not force the SFP transceivers into the cage slots. If the transceiver does not easily slide in and click into place, it may not be aligned correctly or may be upside down. If this happens, remove the SFP transceiver, realign it or rotate it and slide it in again.

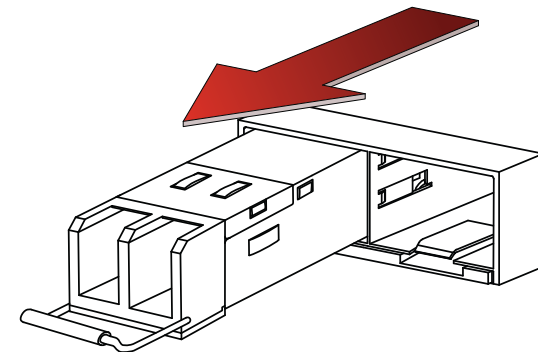
5. Press the transceiver firmly into the cage socket with your thumb.
6. Verify that the transceiver is latched correctly by grasping the sides of the transceiver and trying to pull it out without lowering the extraction lever.
If the transceiver cannot be removed, it is installed and latched correctly.
If the transceiver can be removed, reinsert it and press harder with your thumb. If necessary, repeat this process until the transceiver is securely latched into the cage socket.

To remove the SFP transceivers:

1. Ensure that you are properly grounded.
2. If applicable, disconnect the fiber-optic cable from the transceiver connector and install a clean dust plug in the transceiver's optical bores.



3. Pull the extraction lever out and down to eject the transceiver.
If you are unable to use your finger to open the lever, use a small flat-head screwdriver or other similar tool to open the lever.



4. Hold the sides of the transceiver and carefully pull it away from the cage socket.
5. Replace the cap on the SFP cage socket and place the removed SFP transceiver into an antistatic bag.

Note: Follow proper fiber-optic handling procedures when installing and removing SFP transceivers to ensure the devices remain clean and are not damaged.

Connect to the FortiSwitch Unit

The FortiSwitch unit requires some basic configuration to add it to your network. These basic steps include assigning IP addresses, subnet mask, and the default gateway.

The FortiSwitch unit can be configured using the Web-based Manager or the Command Line Interface (CLI).

This section will step you through both methods of connecting to the unit. Use whichever method you are most comfortable with.

To connect to the Web-based Manager:

1. Connect a FortiSwitch unit port to a management computer using an Ethernet cable.
2. Configure the management computer to be on the same subnet as the internal interface of the FortiSwitch unit:
 - IP address: 192.168.1.8
 - Subnet mask: 255.255.255.0
3. To access the FortiSwitch unit Web-based Manager, start a supported browser, and browse to `http://192.168.1.99`.
4. Type `admin` in the *Name* field, leave the *Password* field blank, and select *Log In*.

You are now ready to configure a new network, change passwords or change IP address to match your network settings.

5. Select *System > Management > Network Interface > IPv4 Network Configuration* and enter the required information to configure the FortiSwitch unit on your network.

You can now proceed with configuring your FortiSwitch unit.

To connect to the CLI:

1. Connect the FortiSwitch unit console port to the management computer using the provided console cable (other console cables may not function correctly).
2. Start a terminal emulation program on the management computer. Use the following settings:
 - Baud Rate: 115200
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow Control: None
3. Press *Enter* on your keyboard to connect to the CLI.
4. Type `admin` in the *Name* field, leave the *Password* field blank, and press *Enter*.

You can now proceed with configuring your FortiSwitch unit.

Power over Ethernet

The FortiSwitch 224D-POE supports IEEE 802.3af 180W.

You can use PoE to power devices like VoIP phones or PoE-powered wireless access points. Simply plug a Cat5 or better cable into the port and the switch will determine if it is safe to provide power along with the data.

To configure PoE, log in to the device, and select *System > POE*.

Troubleshooting tips

Here are some tips for correcting simple problems you may have.

Make sure the Ethernet cables are securely plugged in.

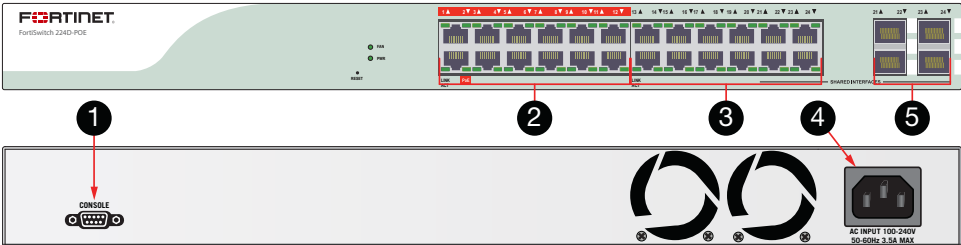
For each powered-on computer connected to the FortiSwitch with a securely plugged in Ethernet cable, the corresponding FortiSwitch LAN port status light will be lit.

Make sure the network settings of the computer are correct.

In most cases, computers should be configured to obtain an IP address automatically via DHCP.

If your network uses static IP addresses, be sure the switch and computer are configured with valid IP addresses for your network.

Technical Specifications

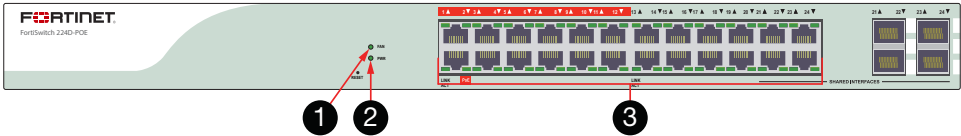


#	Interface	Type	Description
1	Console Port	RS-232	Optional connection to the management computer. Provides access to the CLI.
2	Ethernet Ports 1 to 12	RJ-45	Gigabit Ethernet, auto-sensing LAN ports with PoE up to 15.4W, 802.3af.
3	Ethernet Ports 13 to 24	RJ-45	Gigabit Ethernet ports for connection to your network and the Internet. Ports 21 - 24 shared with SFP ports 21 - 24.
4	Power Supply		100-240V AC, 50-60Hz, 3.5A universal input
5	SFP Ports 21 to 24	SFP	1Gbps/auto , small form-factor pluggable transceiver. Shared with Ethernet ports 21 to 24.

Note: The SFP ports are shared with the normal RJ-45 ports 21 to 24. When an optical transceiver is inserted into the SFP port and linked up, the corresponding RJ-45 port cannot be used, and its Link/Act LED will function as the Link/Act LED for the SFP port.

Caution: The SFP ports should use UL listed Optical Transceiver products, rated Laser Class 1, 3.3V DC.

LED Specifications



#	LED	State	Description
1	Fan	Green	Fans working normally.
		Flashing Green	Fan has failed (error).
2	Power	Green	Power is supplied to the switch & it is operating normally.
		Off	Power is disconnected.
3	Ethernet Ports Link/Act (Left LED)	Green	Port is active.
		Flashing Green	Port is transmitting and receiving data.
3	Ethernet Ports PoE	Off	No powered devices detected.
		Amber	Powered on, 802.3af device detected.

Note: The PoE LED only applies to Ethernet ports 1 to 12. On Ethernet ports 13 to 24 it is not used.

Documentation and Links

The following Fortinet web pages provide information and resources for your Fortinet product:

1. Fortinet Customer Service & Support: <https://support.fortinet.com>

On this page you can create a support account with Fortinet, register and manage your products, download updates, firmware images and release notes, and create technical support tickets.

2. Fortinet Document Library: <http://docs.fortinet.com>

This page provides the most up-to-date versions of Fortinet publications for the entire family of Fortinet products.

3. Technical Discussion Forums: <https://support.fortinet.com/forum>

This page allows you to communicate with other customers and Fortinet partners about Fortinet products, services, and configuration issues in a forum environment.

4. Training Services: <http://campus.training.fortinet.com>

This page provides course descriptions, availability, schedules, and locations of training programs in your area.

5. FortiGuard Threat Research and Response:

<http://www.fortiguard.com>

This page provides up-to-date information on vulnerabilities and threats, and includes a virus scanner, Internet Protocol (IP) signature look-up, web filtering tools, and related information.

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- Protection from new threats

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Vous devez enregistrer le produit pour recevoir:

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Cautions and Warnings

Environmental specifications

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions:

Instructions de montage en rack - Les instructions de montage en rack suivantes ou similaires sont incluses avec les instructions d'installation:

Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{max}) specified by the manufacturer.
Température ambiante élevée - S'il est installé dans un rack fermé ou à unités multiples, la température ambiante de fonctionnement de l'environnement du rack peut être supérieure à la température ambiante de la pièce. Par conséquent, il est important d'installer le matériel dans un environnement respectant la température ambiante maximale (T_{max}) stipulée par le fabricant.

Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
Ventilation réduite - Installation de l'équipement dans un rack doit être telle que la quantité de flux d'air nécessaire au bon fonctionnement de l'équipement n'est pas compromise.

Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
Chargement Mécanique - Montage de l'équipement dans le rack doit être telle qu'une situation dangereuse n'est pas liée à un chargement mécanique inégal.

Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
Surtension - Il convient de prendre l'ensemble des précautions nécessaires lors du branchement de l'équipement au circuit d'alimentation et être particulièrement attentif aux effets de la suralimentation sur le dispositif assurant une protection contre les courts-circuits et le câblage. Ainsi, il est recommandé de tenir compte du numéro d'identification de l'équipement.

Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).
Fiabilité de la mise à la terre - Fiabilité de la mise à la terre de l'équipement monté en rack doit être maintenue. Une attention particulière devrait être accordée aux connexions d'alimentation autres que les connexions directes au circuit de dérivation (par exemple de l'utilisation de bandes de puissance).

Refer to specific Product Model Data Sheet for Environmental Specifications (Operating Temperature, Storage Temperature, Humidity, and Altitude).
Référez à la Fiche Technique de ce produit pour les caractéristiques environnementales (Température de fonctionnement, température de stockage, humidité et l'altitude).

Regulatory Notices

Federal Communication Commission (FCC) – USA

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received; including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

WARNING: Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

Industry Canada Equipment Standard for Digital Equipment (ICES) – Canada

CAN ICES-3 (A) / NMB-3 (A)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

European Conformity (CE) - EU

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.) Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable. It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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